

## **APPENDIX A**

### **Declaration of Dr. Max Sonnleitner Under 37 C.F.R. § 1.132**



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Hansgeorg Schindler

Serial No.: 09/845,006

Filed: April 27, 2001

For: ARRANGEMENT FOR VISUALIZING  
MOLECULES

Group Art Unit: 1639

Examiner: Jon D. Epperson

Atty. Dkt. No.: SONN:010US

CERTIFICATE OF MAILING 37 C.F.R. § 1.8	
I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below:	
6-23-05 Date	Mark B. Wilson Mark B. Wilson
<i>Mark B. Wilson by Gilby A. Greene</i>	

DECLARATION OF DR. MAX SONNLEITNER UNDER 37 C.F.R. §1.132

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

I, the undersigned, do declare that:

1. I am Head of the "Ultra-sensitive Fluorescence Microscopy/Device Development" group at the Center for Biomedical Nanotechnology of the Upper Austrian Research GmbH in Linz, Austria. I have over 7 years of research experience and have published numerous peer-reviewed publications in the field of fluorescence microscopy. I am an expert in, among others, the area of fluorescence microscopy, including single molecule detection

and single dye tracing. A copy of my *curriculum vitae*, listing my publications in this regard, is attached as Exhibit 1.

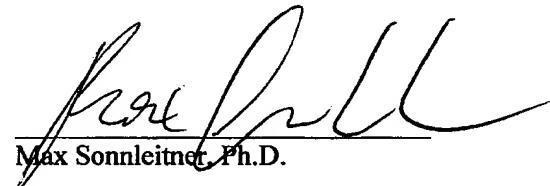
2. I am familiar with the work of Dr. Hansgeorg Schindler relating to single molecule imaging on large surface areas using fluorescence microscopy and a CCD camera synchronized to a sample scanning stage. I have reviewed the specifications and currently pending claims of the above-referenced application.
3. Those of skill in the field of fluorescence microscopy understand that “wide-field microscopy” is a technique employed in single dye tracing, wherein a large area of between  $100 \mu\text{m}^2$  (the size of a small single biological cell) to  $10,000 \mu\text{m}^2$  is evenly and simultaneously illuminated while its image is recorded. The term “large-area fluorescent excitation” as used in the specification and claims has the same meaning to one of skill in the field of fluorescence microscopy as the term “wide-field illumination.”
4. By contrast, those of skill in the field of fluorescence microscopy understand that, in “confocal microscopy,” a laser is focused on a focal spot on the sample. The diameter of this spot is  $\frac{1.2 \times \lambda}{NA}$ , where  $\lambda$  is the wavelength of the laser and NA is the numerical aperture of the objective. The wavelengths ( $\lambda$ ) of lasers commonly used in fluorescence microscopy range from 0.4 to 0.7  $\mu\text{m}$ . The numerical apertures (NA) of commonly used objectives are 1 to 1.4. Thus, the diameter of the focal spot of the laser ranges from 0.340  $\mu\text{m}$  to 0.840  $\mu\text{m}$ , or well below 1 micrometer.

5. In view of the above, it is impossible to evenly illuminate an area of 100  $\mu\text{m}^2$  using "confocal microscopy." The references of Sharonov, *et al.* and Sanchez, *et al.* (Exhibits 2 and 3 respectively), which I have read, are related to "confocal microscopy" as that term is understood to those skilled in the field of fluorescence microscopy. These references teach nothing to one of skill in the field of fluorescence microscopy about "large-area fluorescent excitation" or "single dye tracing," as described in the above-referenced application and claim.

6. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

06/16/2005

Date



Max Sonnleitner, Ph.D.